

Investigation Process

What triggers an investigation by the N.C. Department of Labor's Occupational Safety and Health Division?

- A worker's death.
- Hospitalization of an employee, an amputation or the loss of an eye.
- The department may also receive information of a fatality or catastrophe from media reports or referrals from other government agencies.

How is the NCDOL OSH Division notified?

- An employer must notify NCDOL within eight hours of any work-related fatality. In-patient hospitalizations of one or more employees, any work-related amputation, and any work-related loss of an eye must be reported within 24 hours.

What will the investigation focus on?

- The investigation will usually be limited to the events surrounding the accident unless observations at the site indicate a broader investigation is needed.

What will happen during the investigation?

- An OSH investigator will go to the accident site and collect physical evidence, including photographs.
- The investigator will interview employees, witnesses and management officials about the accident to determine its cause.
- Any violations of safety and health standards will be noted and citations will be issued.

How long will the investigation take?

- An investigation can take anywhere from a few weeks to six months, depending on the complexity of the accident.

When are investigation results disclosed?

- Citations and penalties, if issued, can be released to the public on the issuance date.
- Other contents of the file cannot be released until the case is closed or final order on citations is rendered.

The Investigation

While nationwide tower crane accidents have been in the news, most of the crane-related injuries and deaths in North Carolina involve mobile type cranes such as crawler cranes and truck cranes. When investigating crane accidents, OSH investigators will seek to determine several factors, including whether:

- Crane operations complied with manufacturer's specifications and limitations.
- Crane assembly, modifications or disassembly were conducted by a trained individual.
- The crane was operated by qualified and trained personnel.



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Photo: NCDOL/Neal O'Briant

The boom of a tower crane looms over a building under construction in downtown Raleigh.

- A designated competent person inspected the crane machinery before and during use to ensure safe operations, and more comprehensive inspections of critical items were conducted on an established schedule. Shift inspections would include items such as wire ropes, and inspection schedules would also include welds for cracks and crane parts for cracks or significant wear.
- Crane repairs or other modifications had been inspected by a qualified person.
- The crane was placed on a stable surface with a 10-foot safe working clearance from electrical power lines.
- Crane outriggers were fully extended, and personnel access was restricted inside the crane's swing radius.
- The crane load capacity had not been exceeded while making lifts and the load weight assessment was accurate.
- Employees were working under crane components such as the boom or jib.
- Crane safety devices such as the crane level indicator were operating properly.
- A qualified signal person was provided when required due to visibility issues or safety concerns.
- Fall protection equipment was provided for work more than 6 feet above a lower level.
- Materials were rigged by a qualified rigger so that items could not come loose and strike an employee.
- Tower cranes foundations and structural supports were designed by the manufacturer or a registered professional engineer.

Standards: General Industry: Subpart N—Materials Handling and Storage; Construction: Subpart CC—Cranes and Derricks in Construction

Industry Type: Construction and General Industry

Accident Type: Electrocution, crushed by, struck by or fall from crane

Statistical Data: There were no crane-related fatalities in calendar years 2019 and 2020. Fatalities in North Carolina have not been associated with tower cranes as in other states.

What programs does the Department of Labor have in place to prevent crane accidents?

Construction special emphasis program: Increased training and attention in a dangerous industry.

Free training: Workshops, training and consultation in both English and Spanish.

Publications: A crane safety industry guide and a hazard alert.